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PART IV

WATER RESOURCES COUNCIL

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WATER RESOURCE POLICY STUDY

WATER RESOURCES COUNCIL

WATER PROJECT POLICY STUDY

The notice in the issue of July 15, 1977 (42 F.R., 36788), Part VI, concerning the Water Resources Policy Study requested by the President in his Environmental Message of May 23 to the Congress, referred to additional information to be published later. In that regard, the following papers on water quality, water resources research, and on Federal reserved water rights are presented.

The public is encouraged to comment on these papers and issues as well as on the previously published papers. The comments may be presented orally at the hearings (see issue of July 6, 1977 (42 F.R., 34563) for schedule) or in writing, addressed to the Chairman, Water Resources Council, 2120 L Street, N.W., Washington, D.C. 20037.

The record will remain open for comments until August 20.

JUL 21 1977

Guy R. Martin
Alternate to the Chairman,
Water Resources Council
Chairman, Water Resources
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Certifying Officer

WATER QUALITY

Water quality is an inseparable dimension or characteristic of water resources for all uses and all sources of the water. Quality should also be an inseparable consideration of all planning, development, use, and management of the resource. Because of this inseparableness, quality will constitute a major feature of the review of each of the issues by the several task groups. For instance the task group on the revision of planning and evaluation criteria is examining the feasibility of consolidation of grant and loan programs within the planning system to meet the mutual objectives of the conventional direct Federal programs. Also, this task group is considering requiring that comprehensive basin, regional, and State water plans include a complete merger of both water quality and water quantity elements throughout.

Though the task group on cost sharing is examining primarily the most effective and equitable means of obtaining repayment of the Federal investment or of replacing the traditional Federal financing role with other means, the effect of such policy options on water quality considerations and conservation objectives is also being evaluated. Furthermore, the effectiveness of market pricing for certain vendible services and products of Federal water resources projects as an incentive to water quality conscious behavior by water users is under study.

The task group on institutions, in examining economic as well as legal institutions, is considering the reduction of subsidies and more reliance on market prices, penalties, and charges to influence project choices and water use. In this regard, effluent charges may impel changes in industrial

processes to reduce waste water discharge costs with a consequent beneficial effect on water quality. Also, this task group is looking at water-related laws and management practices that may impair recognition of environmental values, including water quality. Particular attention is being given to the legal and institutional mechanisms to assure and protect instream values and flows.

The task group on conservation is looking at the entire spectrum of water uses and practices to determine the most productive means to reduce wastefulness, including the waste manifested by polluting practices. In this regard, water resources research will be relied upon to make a major constribution through developing efficiency-in-use techniques and through treatment technology for waste waters, allowing reuse and reduction or elimination of polluting effects. Desalination processes may be applicable here to brackish and other poor quality waters, allowing in effect for augmentation of supply without the necessity of impairing streamflows through regulating and storage structures.

An option paper on the subject of water quality is not being presented because, as was said in the original Federal Register notice of July 15 on the water policy review, the Administration's position would be presented in the testimony to the Congress on amending the Federal Water Pollution Control Act Amendments of 1972, P.L. 92-500. That testimony is presented below.

STATEMENT OF
THOMAS C. JORLING
ASSISTANT ADMINISTRATOR FOR
WATER AND HAZARDOUS MATERIALS
ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SENATE SUBCOMMITTEE ON ENVIRONMENTAL POLLUTION
JUNE 30, 1977

Mr. Chairman and Members of the Subcommittee, I am Tom Jorling, Assistant Administrator for Water and Hazardous Materials. It is a pleasure to have this opportunity to testify before the Subcommittee on EPA's experience, to date, with the implementation of PL 92-500, the Federal Water Pollution Control Act of 1972. Your considerations of possible legislative changes in the statute which you, Mr. Chairman, once characterized as the need for "mid-course corrections," are as timely now as your analogy is apt. The 1972 legislation launched the nation upon a purposeful course of environmental achievement unprecedented in domestic program. While few fully appreciate the awesome dimensions of the task, it is a tribute to the vision and determination of the

Congress and especially the Public Works Committees of the two Houses, that in the design and enactment of PL 92-500 they fashioned a sound piece of legislation charting the nation on a determined course.

Now, nearly five years later, it is entirely appropriate that we assess the progress of the program, evaluate the soundness of the statutory strategy, consult the charts to determine if we are still on course, and make the appropriate navigational corrections to speed us toward the destination which Congress set out in the objectives of the Act, "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." It is also timely that this hearing is scheduled on June 30, 1977, the eve of the statutory deadline for the installation of the best practicable control technology.

I am sure you have heard from previous witnesses, here and in other parts of the country about particular problems with the Act's implementation. It is a complex piece of legislation and there have been problems, but I want to strongly assert that despite the problems, the Act is working. It is gratifying to report that the great majority of industry will be in compliance with the 1977 requirements. Out of 4000 major industrial dischargers, an estimated 3,400 have complied with the deadline, and most of the remaining 600 are moving toward compliance.

I think this stands as conclusive evidence of the basic validity and effectiveness of the Act's strategy for the application of uniform standards to point source discharges. Also, it is tribute to the ingenuity, dedication and good faith demonstrated by most of America's industry toward achieving water pollution control.

Unfortunately, the progress with bringing publicly owned waste water treatment systems into compliance has not been as promising. As contrasted with industrial compliance, only about 30% of the publicly owned systems are in compliance on this bench-mark date. Reasons for this are not attributable to any basic flaw in the Act's strategy. They can be found in a time-frame which was perhaps too short considering the enormity of the job and the complexities of overcoming inertial forces of the bureaucratic system at every level of government, including those in the EPA. Uncertainties of Federal funding have plagued the municipal construction grant program over the past several years and, I might add, again imperil its efficient and expeditious functioning. Also, the lead time required for design and construction of some of the larger treatment systems has contributed to delays. Although it will take a decade or so to totally complete the task, many municipal systems will be brought into compliance in the next few years providing that adequate Federal resources are available to aid in constructing the necessary facilities.

While experience with the implementation of the Act is instructive in assessing future direction, the Committee, I assume, is more interested in EPA's judgment as to how serviceable the Act's essential structure is for moving the water pollution control program beyond the 1977 requirements, toward achievement of the stated goals and objectives.

Let me preface my comments in this regard by saying that EPA feels the Act is basically sound as a mechanism for advancing the nation's water pollution control programs. The proposals being offered by the Agency are aimed at fine tuning the Act's provisions.

In evaluating the progress to date it is important to add a word of caution in the process of identifying any area of the statute as needing change. Although the Act has been in effect almost 5 years, EPA, State and local governments, as well as industrial and municipal sources, are just now achieving the integrated implementation of the Act which was contemplated. We are just beginning to focus on actual pollutants rather than conventional parameters of pollution. We are now only at the threshold of assuring that planning will guide implementation. We therefore must be careful not to confuse administrative problems with statutory imperfection.

Regarding the future of the program EPA sees two primary themes in pursuing its mission of water pollution control: (1) to control toxic

pollutants and (2) to encourage the conservation, reuse and recycling of both water resources and the valuable elements contained in the various waste streams currently being discharged to the nation's waters.

Let me explain the Agency's strategies for meeting these objectives in both the municipal and industrial areas.

MUNICIPAL STRATEGY

As EPA strategy, I would like to reassert what I believe to be the basic strategy of the Act in regard to controlling discharges from publicly owned treatment works.

- The first priority in providing federal assistance should be on construction of those treatment facilities needed to comply with the enforceable goals of the Act.

- The application of best practical waste treatment technology, should conform to section 201 and encourage alternatives to conventional treatment technologies which might constitute more environmentally compatible solutions to waste control and result in the conservation and reuse of water, water borne nutrients, and other valuable elements.

- Application of pretreatment requirements to industrial discharges should be rigorously pursued to assure removal of harmful contaminants from the municipal waste stream and minimize the degree to which these contaminants render the residuals from the municipal waste treatment process dangerous or unsuitable for land treatment and land spreading or other forms of sludge disposal.

- Swift enforcement should be taken for those communities demonstrating recalcitrance or negligence in bringing their discharges under control, or failing to operate their treatment facilities to achieve optimal control.

Admittedly, the control of municipal discharges has not moved with the facility that the Act anticipated. Nor have we been successful in overcoming inertia in the program which has prevented moving toward recycling systems. Nevertheless, we have made considerable progress toward assisting communities with the construction of the enormous back log of wastewater treatment needs.

As of May 31, 1977, the EPA construction grants program had obligated $13.3 billion for the construction of wastewater treatment facilities. Much, however, remains to be done. President Carter has already asked the Congress to make a long range federal commitement

of $45 billion over a 10 year period to aid states and communities in planning, designing and constructing these essential treatment facilities. These federal funds, coupled with matching state and local moneys,will take care of the nation's estimated priority needs for basic wastewater treatment facilities. In making this commitment however, the President was firm in his assertion that the money be spent on building those projects which take care of the highest priority needs, represent the most cost-effective solution to the treatment problem, and will not lead to secondary impacts resulting in even greater environmental assaults to the air, the water and the land. We must also tailor the scope and scale of our response to address the problems of small communities. Burdensome systems providing little marginal improvement in water quality should not be categorically imposed upon them. We must fit our solutions to the problems - not the other way around. Likewise we are offerieng an amendment which will facilitate the step two and three grant review and approval process for small communities.

The message the President is sending, and the one EPA vigorously supports, is that continued commitment of heavy public funding to this program must be predicated on an environmental objective - that of cleaning up and maintaining the quality of the nation's waters. It recognizes the fact that there are limited resources available for critical pollution control needs and that what funds we have must

be dedicated to helping communities meet the enforceable goals of the Act. One of the greatest dangers the program faces is the proclivity to shed its environmental identity and lapse into the context of a public works program - building lower priority collector sewers and interceptors without reference to remaining high priority needs or to secondary environmental impacts. If the program becomes too concerned with the flow of dollars and looses sight of its environmental objective and the opportunity to encourage the application of innovative alternatives, the Federal Water Pollution Control Program will be in danger of losing not just the President's support, but the support of the public who have worked hard over the past decade for a well-funded federal clean water program.

I might add that EPA had demonstrated its determination to keep the construction grants program on an environmental course. We recently issued a policy limiting the eligibility of funding for collector sewers and insisting upon more vigorous review of facility grant applications to insure that proposed facilities are environmentally and economically efficient and that they remedy essential pollution control needs. Additionally, we are asking for legislative reinforcement of this policy on limiting eligibilities for storm and collection sewers, reserve capacity and general sewer rehabilitation and replacement, as part of our request for restricted eligibilities.

We are recommending the elimination of storm sewers for eligible funding. We are also recommending that collection sewer systems be

eliminated from eligibility for municipal construction grant funding under PL 92-500. There are other Federal assistance programs more appropriate for assisting particularly small, low income communities, with the construction of needed collection systems. The Federal Farmers Home Administration loan program is available for this purpose and funding should be increased as necessary.

Eligibility for reserve capacity in treatment plants and sewers should be limited somewhat to the capacity to serve only the estimated near term population of the service area. Sewer rehabilitation and replacement should be eligible only in those cases where it is considered a cost effective solution to the elimination of excessive infiltration and inflow.

Additionally, I should make it clear that it will be the future policy of the Agency to fund only advance waste treatment projects essential to meeting the 1983 water quality goals. This partial prohibition, however, will not be interpreted by the Agency as a means of discouraging municipal initiatives toward recycling and land treatment alternatives.

In the past there has been an unfortunate tendency for municipal treatment technologies to become hidebound. As a new employee of the Environmental Protection Agency, I was pleased to learn that, contrary

to my apprehensions, the Agency has been making impressive advances in encouraging the application of alternative technologies to the treatment of domestic wastes. Over 13 percent of the step 2 and 3 construction grant projects now being funded involve techniques of land application. Because I know the Subcommittee has expressed an interest in this area I am submitting some information with this testimony which describes the extent to which alternative treatment technologies are being funded through EPA facilities grants. I am convinced, however, that much more can be done. The Administrator has directed that we use what influence we have to advance efforts toward wide-scale development and utilization of technologies that provide for reuse and conservation of the water as well as the nutrients and other valuable elements it carries. In a nation that is facing increasing problems of water scarcity, within a world environment never removed from the grim specter of famine, consciencious public policy demands no less.

In this same context, we will be diligent in our pursuit of physical, economic or political devices that will encourage water savings by the individual, the institutional and the industrial user. In addition to an insistence upon sewerage charges reflective of the proportionate share of the system used, we are also recommending consideration of legislative measures to encourage water conservation in the communities receiving construction grants awards. There is

compelling evidence that significant savings can be achieved in domestic usage. We recommend that the full Federal share of the construction grant be available to only those communities that indicate they are taking the initiative to reduce water use consumption. The long run result will be the conservation of a vital resource and financial savings to both the Federal government and the community.

For those municipal treatment systems receiving industrial wastes, we are developing effective pretreatment controls which will assure that the system is protected from incompatible pollutants and that incompatible toxics and heavy metals are removed from the waste stream prior to discharge into the municipal system. One of our objectives should be the generation of a treated waste residual which can confidently be placed on the land as a fertilizer, a soil conditioner or stabilizer without fear of contamination or other adverse effects. Similarly, if through pretreatment we can achieve effluent from various levels of treatment that contains nutrients and organic matter, then adoption of alternatives which use such valuable materials will beome the rule rather than the exception. Where these alternatives are not optimal, for geographic or other reasons, we should be trying to minimize problems with other disposal options for the enormous volume of residuals generated in municipal facilities.

One of this Administration's management objectives will be an attempt to integrate the authorities of the Resource Conservation and Recovery Act; the Safe Drinking Water Act, and the Marine Protection Research and Sanctuaries Act. They are integral to our common life support systems and essential to the long term stability of the human system.

Along with adequate funding, we must also take a strong posture toward municipal enforcement. During its initial years, the Agency invoked its enforcement powers against municipal dischargers with hesitancy and caution. It is now evident, however, that there are two persistent problems in the municipal sector that must be addressed by firm enforcement. The first is the reluctance of a small but persistent number of municipalities to proceed with the construction of secondary treatment facilities, despite the availability of federal funding assistance. The second is the widespread failure of existing treatment facilities, secondary and otherwise, to produce an effluent meeting either secondary treatment or design specification criteria, primarily because of improper operation and maintenance. The latter problem is normally attributable to the reluctance of city officials to appropriate sufficient funds to the operation and maintenance of treatment facilities. The Agency's enforcement program has a demonstrated capability to deal with both of these problems and is committed to an enforcement strategy to minimize them. That strategy, of course,

would not seek to penalize a municipality whose failure to proceed with the installation of treatment facilities is solely attributable to a lack of adequate federal funding.

This enforcement strategy would be greatly facilitated by amending section 301 of the Act to enable the Administrator to extend the attainment date for secondary treatment on a case-by-case basis in permits to publicly owned treatment works. In this manner the Agency could more effectively use its basic regulatory tool to establish and enforce realistic construction schedules which take into account the availability of construction grant funds, and establish enforceable effluent limitations based on effective operation and maintenance pending the completion of secondary treatment facilities. Other enforcement mechanisms are also under consideration. Specifically, we are looking at the possible application of a delayed compliance fee to noncomplying municipal dischargers. We may wish to offer an amendment for the Committee consideration on this proposal at a later date.

In summary, EPA is satisfied with the strategy contained in PL 92-500 for control of municipal point sources. It is working. We hope that the Congress will keep its essential structure intact. With continued funding for construction grants at the level recommended by the President, and with several relatively small amendments which

we believe would facilitate implementation of the statute, we can move with added determination toward its goals and objectives.

In addition to the previously referenced amendments, we are also recommending a statutory change which would facilitate the delegation of certain functions of the construction grants program to those states which are qualified and interested in assuming grant management responsibilities. To assist the States, we recommend providing EPA with the authority to make up to 2 percent of the State's share of the federal construction grant funds available to the States for management needs. The authority would enable the Agency to continue its effort to make the most effective use of available resources, both within the States and other federal agencies, to effectively manage the construction grants program. For example, we are exploring possibilities with the Corps of Engineers to involve their personnel in the management of some aspects of the grant program.

In regard to amendments, I should add, that in the event that the House and Senate again fail to achieve a mutually agreeable compromise on several of the disputed areas of the Act, I wish to stress that it is absolutely imperative that the Congress provide the program with continued short term funding for the municipal construction grants program, as well as the authority for case-by-case extensions of the statutory deadline as it applies to municipalities.

PLANNING STRATEGY

Section 208 of the Act creates a continuing planning process which, if properly implemented, should provide the basic framework for integrating the facility construction grants and the NPDES permits into a coherent and implementable long range plan for the achievement and maintenance of water quality within an area. These 208 plans should comprise the state's overall strategy for achieving water quality. While there have been some problems with the implementation of the 208 program we believe it is a critical component of the Act. It deserves continued commitment of resources as well as increased management and guidance from the federal government and the states. President Carter has already asserted this Administration's commitement to the 208 planning program and has requested additional funding.

We will attempt to integrate all the planning functions of the Act -- under sections 106, 201, 208, and 303 -- into a comprehensive water quality management process. We believe we can and should do this under existing authority. Within this framework the State level of government should assume a central coordinative role with the local governments as active participants. Specific products will be expected of the planning efforts, including the development of regulatory, management and assistance programs controlling non-point sources and the location of new polluting facilities. Additionally, we are

recommending an amendment providing that continued availability of federal funds under section 207 of the Act will be premised upon the development and implementation of enforceable pretreatment standards for the introduction of pollutants into publicly owned treatment works, as well as the development of approved water quality management plans.

INDUSTRIAL

The second major category of point sources with which the Federal Water Pollution Control Act deals is industrial dischargers. The Agency, with the assistance of the states, has experienced widespread success in bringing about compliance with effluent limitations based on best practicable control technology. We expect all but about 14% of the major industrial dischargers to have met

these requirements by tomorrow. That is a tremendous accomplishment by the Agency, the states with approved permit programs, and American industry.

The Agency will be devoting the bulk of its enforcement efforts over the next year to dealing with the large industrial dischargers that will not meet the July 1 deadline. We will address first those discharges whose effluents have adverse effects on public health and those dischargers whose conduct to date has the earmarks of bad faith. In fairness to the vast majority of industries that have met their pollution control objections in a timely manner, we will be seeking penalities commensurate with the economic benefits of delayed compliance, as well as court imposed compliance schedules. The Agency will not take punitive measures, of course, against those industries that, despite good faith efforts on their part, have been unable to achieve treatment requirements in a timely manner because of delayed action by other parties. Such instances include those in which permits have not been issued in a timely manner and in which industries are scheduled and under contract to discharge their wastes in municipal treatment systems that are presently unavailable. To facilitate the Agency's enforcement program we are proposing amendments allowing the administrative assessment of a non-compliance fee commensurate with the economic benefits of delayed compliance and addressing several technical problems with the Agency's present enforcement authority.

The Agency's firm enforcement policy will assure the complete attainment of the first stage of pollution control envisioned by the Act - the control of traditionally regulated pollutants, such as biological oxygen demand (BOD), suspended solids, pH and some of the heavy metals. At the same time it sets the stage for the activation of the second round of pollution abatement - the control of toxic pollutants, particularly organic chemicals.

As you have heard from other testimony, the 1977 or BPT limitations most likely will have incidental benefits in control of toxics in some industries. However, our available data, along with recent experiences with pollutants such as Kepone, carbon tetrachloride, and carcinogenic organics in drinking water supplies, leave no doubt that even with BPT controls there will continue to be major discharges of toxic pollutants, many of which are potential threats to public health. Thousands of others pose suspected but unquantified hazards to human as well as aquatic life and welfare.

The last five years of experience in implementing PL 92-500 have left the Agency firmly convinced that the Best Available Technology requirements in the Act provide the most reasonable and most effective mechanism for dealing with the majority of these pollutant problems. The BAT process most easily accommodates the large numbers of pollutants and industry subcategories we must be concerned with. Moreover, the technology and economic tests in BAT are in general more easily met than the cause-and-effect type health based tests under Section 307(a). It is important however, to think of BAT in its most up-to-date frame of reference. Earlier BAT as well as BPT standards

focused primarily on conventional parameters. However, our current strategy calls for the use of revised BAT standards to control toxics in twenty-one high priority industrial categories with a primary focus on a group of sixty-five high priority elements, compounds and classes of compounds. I would like to point out that in formulating this strategy, which is fully authorized by sections 301 and 304 of the Act, a large measure of credit is due to the environmental groups who participated in last year's court settlement which embraced this strategy. It is an outstanding example of the value of public participation, which we will continue to encourage, as authorized, in all phases of implementation of the Act.

Let me leave no doubt that even with the technology based approach in BAT, the ultimate task of controlling toxics will not be easy. We are dealing with large numbers of very complex pollutants about which very little is known. But, as the Committee heard from Dr. Robert Harris last week, many of those pollutants have serious implications for human health. The Agency is convinced that this is the course that we must pursue, and our current work will help pave the way for eventual protection of our nation's waters from toxic discharges. Accordingly, we are making no suggestions for major changes to the BAT provision at this time. However, we are proposing under sections 304 and 402 a supplemental authority to regulate and prohibit specific measures and practices which are ancillay to traditional manufacturing processes

and which contribute significant amounts of pollution to navigable waters. Such authority would be used for special cases where portions of industrial flows are so erratic or unpredictable as to make the development of specific effluent limitations very difficult and resource intensive. We also are offering a proposal to have the review of effluent limitation and other national standards consolidated into the Court of Appeals for the District of Columbia. This would eliminate a considerable amount of confusion and delay from the standard setting process. Finally, we are offering a proposal which would limit the use of variances under section 301(c) of the Act for BAT limitations for toxics.

Our current strategy also provides for use of section 307(a) of the Act for special situations where the BAT provision, because of economic or technical constraints, cannot provide adequate protection to human health and welfare. Our past experience with section 307(a) has shown that it is not amenable to dealing with large numbers of pollutants and sources. Its health orientation and pollutant-by-pollutant approach coupled with the formal rulemaking requirement make it too resource intensive to use on a large scale. However, we believe there will be cases where BAT will lead to limitations that still leave an unacceptable threat to human health and welfare, and that the more stringent health based requirements under section 307(a) will be needed. Accordingly, we feel strongly that section 307(a) must be preserved for this special purpose and are offering

several minor changes aimed at making Section 307(a) more functional. Our proposal to change 307(a) procedures from formal to informal rulemaking is the most essential of the changes we are offering.

Having discussed the role the Agency sees for BAT for control of toxics, I should say a few words about BAT for the more traditional pollutants. It is apparent that substantial gains have been made with BPT. However, there is evidence that significant problems still remain. Using available monitoring data and information from the report of the National Commission on Water Quality projecting the impact of BPT controls, our estimates are that with BPT, there still will be between 30 and 50 percent of the nation's waters east of the Rockies and 20 to 35 percent of the waters for the entire country that fail to maintain the dissolved oxygen levels needed to support a balanced population of desirable fish and other aquatic life. It is worth noting, moreover, that these figures fail to take into account growth, which by 1985 the Commission says could offset many of the gains from BPT. Our data also indicate that the remaining dissolved oxygen problems still tend to be associated with point source rather than non-point source discharges. While non-point sources seem to account for the majority of the remaining BOD loadings after BPT, these non-point source loadings occur at high flows so that the resulting impacts on oxygen often are not significant. Finally, aggregate analyses indicates that with BPT and secondary treatment eventually in place, approximately one third of the point source loadings of BOD still will come from industrial sources.

Because of these findings, the Agency is convinced that for some industrial categories it still is reasonable to seek additional abatement of BOD and other traditional pollutants through a second round of national limitations. Our analysis to date shows that it is impossible to respond in a general way to the Commission's conclusions that BAT as initially promulgated by the Agency, would be inefficient for conventional pollutants from a cost-effectiveness point of view. Rather, we have found that this question has to be addressed on an industry by industry basis. There will be some industries for which BPT controls for convential pollutants have achieved all that can reasonably be expected for the immediate future. However, there will be a number of cases where this will not be so. For example, there currently are some industries where the estimated costs of a BAT increment of control for BOD is far below even the cost of secondary treatment for municipal systems in terms of cost per pound of pollutant removed. Clearly this is not a hard and fast test of what BAT should be for industry, but it tends to substantiate the point that in some industries additional controls for conventional pollutants can be obtained under BAT for very reasonable costs. Accordinaly, the Agency is in the process of reviewing its existing BAT standards for convential pollutants to insure their overall reasonableness. Where the BAT standards result in additional costs that appear to be unrealistic in light of the associated incremental reductions in pollutant loadings, the standards will be appropriately modified. We believe the Act clearly allows for such a test of "reasonableness," especially in the

absence of any toxic pollutant problems. As our analysis continues, should we find that the existing legislation does not provide suitable flexibility we will offer appropriate legislative amendments.

Before leaving the industrial area, I would like to say a few words about longer term objectives and the role of water quality standards. Clearly, the concept of water quality standards has been an element of our pollution control strategies for a number of years. However, the 1972 Act is testament to the fact that the water quality standards approach is very difficult to apply. This is especially true for toxics where, for the most part, the Agency and the States do not have specific water quality standards for any substantial number of toxic pollutants. For instance a recent Agency survey of published documents on State water quality standards revealed that 46 States and territories have no specific standards for organic toxic materials. Indeed, only 27 States had standards for one or more metals. The Agency currently is in the process of developing water quality criteria for a large number of toxic pollutants. However, it is doubtful that toxics can ever be effectively controlled in this manner since establishing cause/effect relationships is an order of magnitude more difficult for toxics than for traditional pollutants, and even the latter are not easily dealt with by water quality standards as witnessed by the 1972 Act. In the long term, the only effective ways of assuring full protection from toxic discharges will be through source controls and increased reuse and recycle of toxic waste streams. Not only will this

provide needed protection from toxics, but it will help make it more feasible to "recapture" the water resources, nutrients and other valuable elements from industrial, as well as municipal, waste streams.

Many industrial facilities already achieve extensive reuse and in most cases find it much more economical than end-of-pipe treatment. In fact, recent surveys have found over 108 industrial subcategories (out of about 650 in the 43 major industries of concern) where complete elimination of discharge has been found feasible just at the BPT level. Individual plants in numerous other subcategories also have achieved this level of control. Thus, while BAT and 307(a) limitations along with water quality based limitations serve as the immediate approach, the goals of reuse, recycle and eventually elimination of discharge are not only feasible, but provide the only certain protection gainst toxic and hazardous discharges.

Regarding the question of goals, I want to emphasize that the current goals in the Act for 1985 have been of great benefit in providing a target for our efforts and in bringing innovation and process changes into the industrial control program. It has been a valuable and commendable goal and we intend to continue to examine its utility in light of our present program and the current industrial and municipal strategies.

OTHER PROGRAMS

Although the FWPCA is focused upon the elimination of point sources of pollution, it is equally important that we more aggressively emphasize non-point source control. In many areas, non-point pollution sources, such as agricultural and urban runoff, account for significant pollutant loadings, for both traditional as well as toxic pollutants. The non-point pollution problem will be given increased agency priority in the coming years. It is appropriate to address these problems in the water quality planning and management functions of the Section 208 process. We must recognize that each category of non-point source is different and will require different control strategies. These strategies may also vary according to the locality or region. I also believe that the cooperation of other agencies which manage Federal lands is vital to the successful control of non-point water pollution. It is equally important that Federal agencies comply with pollution control requirements of both EPA and the States. The solution to the non-point problem can only be found in a coordinated intergovernmental effort.

One final area I would like to address is the 404 program for discharges of dredged or fill material. By now we are all aware that unregulated discharges of dredged or fill material have serious adverse effects on the nation's aquatic resources. Physical alteration of [illegible] and streams by such discharges can destroy their biological and chemical integrity. Some [illegible] destroyed

already, with the current rate of loss approaching 300,000 acres a year. Even those who oppose the 404 program concede that our remaining swamps and marshes play an essential role in our collective effort to meet the objectives of the 1972 Water Act. They provide the breeding and nursery areas for fish and wildlife, remove and recycle organic and inorganic pollutants from ground and surface water supplies, and buffer the destructive effects of storm and flood waters.

The past two years of program implementation have been a learning experience. Unnecessary regulation of minor discharges and small waterbodies is being avoided through the issuance of general and nation-wide permits. Hundreds of projects involving potentially harmful discharges have been modified to protect the aquatic environment including thousands of acres of wetlands. The Corps of Engineers will soon promulgate reorganized and greatly clarified regulations to further streamline the program's administration.

While the current program is effective and many of the criticisms made in the past are being corrected administratively, we are recommending a few limited changes. These would provide EPA with authority to transfer the Section 404 permitting responsibility for Phase II and III waters to those States that have adequate programs. We look forward to working with the Senate and House Committees on this legislation which will encourage more States to become involved in this extremely important program.

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This concludes my testimony, Mr. Chairman. I believe you have some descriptive material before you on the Agency's progress with funding alternatives technology construction grants and on the federal funding of priority need. I will be pleased to discuss this material with you and to answer any questions you might have.

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WATER RESOURCES RESEARCH

The President's directive to base water resources policy on water conservation puts increasing importance on research. Overall, there is a critical need to insure that Federal research activities address the rapidly changing social concerns and environmental problems in a timely and responsive manner.

Perhaps the best indication of the objective of water resources research can be obtained from the preamble to the Water Resources Research Act of 1965, as amended, which states:

> "...to assist in assuring the National at all times of a supply of water sufficient in quantity and quality to meet the requirements of its expanding population, it is the purpose of the Congress, by this Act, to stimulate, sponsor, provide for, and supplement present programs for the conduct of research, investigations, experiments, and the training of scientists in the fields of water and of resources which affect water."

In addition, there is a need for research knowledge to reduce or eliminate any adverse environmental impact from the development and use of water resources.

At the present time, over 20 Federal agencies are involved in water-related research. Most of this is carried out by agency staff or through contracts and grants with private industry, universities, and State and local governments. Four separate categories are involved:

— agency research directed toward program objectives, such as reservoir regulation by the Corps of Engineers or waste treatment technology by the Environmental Protection Agency;

— earth science research and surveys such as those undertaken by the U.S. Geological Survey and National Oceanic and Atmospheric Administration;

— research grant programs such as that sponsored by the National Science Foundation; and

— development of new technologies, such as desalination research by the Interior Department's Office of Water Research and Technology.

However, Federal research is fragmented with a minimum of coordination. This situation raises three problems.

1. Uncoordinated individual agency efforts do not produce coherent results. Overlaps, duplication, and omissions are likely.
2. Because results are not compared or evaluated, the effectiveness of the research is not known.
3. The emphasis on individual agency research results in a focus on narrow particular program objectives to the detriment of larger problems or issues. The distribution of expenditures for Federal water research activities is indicative of this situation. Approximately one-third of the funds is for water quality management and protection. Other significant research expenditures are for fish and wildlife habitat, protection against water-borne disease and hazards, hydrologic investigations, and water supply augmentation.

This situation reveals several issues to be resolved. These issues involve how coordination should be accomplished, how priorities are to

be established, how research results are to be evaluated, made known, and put into use. The role of State governments, the river basin commissions and Federal agencies, including the Water Resources Council, should be considered. Research is not a process that should occur outside the usual system of planning, development, and operation, with the "feed-into" and feed-back" left to spontaneity. Just how does research fit into the process? How much promise does research offer for improvement of the present situation? Is research confined to the "hard" and biological sciences or does it include a part for the social sciences and business arts and practices? These questions and others confront the water resources community and the general public.

The following options are presented as a means of addressing the above problems and issues and improving national policy in water resources research. These options are not the only ones conceivable or viable. They are suggested as a means to solicit discussion and to induce the expression of other options by the public.

Options

1. Centralize all water resources research in one place in the Executive Branch of the Federal Government. The central agency would establish priorities, coordinate mission-directed research of the individual water resources agencies, determine the magnitudes of budgets, and approve individual projects above a certain dollar level. The central agency would also evaluate research results and arrange for technology transfer and dissemination. The agency would also operate a central information and data system for water resources research. A variation

could be to centralize just the planning of research and setting of priorities in a new agency.

2. Maintain essentially the present dispersed system of individual agency programs but with close coordination through the Water Resources Council, or some other organization, for the establishment of priorities and research centers or excellence on a regional basis, with the participation of the river basin commissions and the States.

3. Replace the present system of individual agency programs with a block grant system to States and universities, with a portion of the grants earmarked for particular national objective projects. The national objectives would be determined and prescribed by the Water Resources Council.

4. Establish a national water resources research council composed of the directors of the National Science Foundation, the Office of Science and Technology, the National Academy of Sciences, the Chairman of the Water Resources Council, and such other officials as the President may select and including a representative of the National Governors' Conference, the National Association of Land Grant Universities, private large-scale technology industry, the National Center for Appropriate Technology, and the major national research foundations. This council would determine priorities, annual budget magnitudes, and establish evaluation criteria for awarding of grants and contract research.

27956

FEDERAL RESERVED WATER RIGHTS

Statement of the Problem

A judicially created doctrine generally recognizes that when the United States establishes a Federal reservation such as a national park, forest, wildlife refuge, or military installation, at least as early as the date the reservation was established, a sufficient quantity of unappropriated water is reserved to accomplish the purposes for which the land was reserved. What is most significant with respect to Federal reserved water rights is the fact that the large amounts of water necessary to fulfill the purposes for which the reservation were created have not been quantified. Lack of quantification of Federal reserved water rights presents problems for both Federal and non-Federal water resource users and developers because it conflicts with the water law doctrine of appropriation which developed as the western States were created from the public domain. The domain of appropriation is not based on the ownership of the land by or over which the water flows but rather on the physical appropriation of water and its application to a beneficial use. As between competing appropriators, the one first in time is first in right, and the measure of the appropriative right is the amount of water which is actually applied to a beneficial use. This doctrine was sanctioned by the Desert Land Act (43 U.S.C. 321) wherein Congress declared that"... all surplus water...upon the public lands and not navigable, shall remain and be held

free for the appropriation and use of the public... subject to the existing rights..." (emphasis added). Subsequent to the Desert Land Act, the States have licensed and regulated the use of the waters of the public domain. However, there have been no Federal statutory criteria enacted to quantify the amount of "surplus" water subject to appropriation by the States. Since it is not possible to know with certainty the amount of water held under Federal reserved rights, effective administration is difficult. The lack of definitive guidelines for quantification of Federal reserved water rights, or surplus water within the public domain, results in time-consuming and costly litigation to determine the respective rights of competing sovereigns and other public and private entities with regard to quantities of water which may be used for any particular beneficial or authorized purpose. Moreover, the current state of the law is such that State courts may have concurrent jurisdiction with the Federal courts over controversies involving Federal rights to the use of water. Determinations of the rights of the Federal Government in State courts and vice versa only add to the complexities of the problems by creating additional arenas in which water quantification issues are addressed without definitive resolution. Lack of quantification procedures acceptable to both the Federal Government and the non-Federal entities with regard to water resource uses results in uncertainity of Federal and non-Federal water resource development. This basic recognition, coupled with such factors as the finite supply of water, new applications of water for energy priorities, and the desire to maximize present water uses, mandates a concerted effort by all elements of the public and private sectors to resolve these quantification issues. It is incumbent upon the Federal Government to take the initiative in proposing solutions to resolve the present problems, not only because of its Federal

reserved water rights but also because of its commitment to establish a well-balanced and comprehensive water resources development policy. The Federal Government's navigation and flood control works constitute the largest category of Federal water control structures which affect the uses of water in the Nation's mainstreams and their tributaries. These activities, in conjunction with the operation of major irrigation works of the United States and the millions of acres of Federal lands in the western States, are more than ample justification for Governmental concern. At the same time, the United States has promoted and encouraged, through its executive agencies, water resource development and use by State and local governments as well as the private sector. Accordingly, it is in the Nation's best interest to examine the Federal reserved water rights doctrines and respective States' appropriation doctrines with a view toward proposing viable mechanisms to insure acceptable and effective water resource development and use.

The following issues and options are presented to the public for review and comment as possible courses of action open to the Federal Government and the States to assist in developing a policy that will reduce the difficulties which the lack of water quantification procedures or systems has created.

Options Under Consideration

The most extreme options open are for Federal abandonment of all Federal reserved water rights on the one hand or for a Federal claim to the use of all water associated with Federal lands on the other. These extreme measures would resolve the problem but they are not under consideration because they are not considered to be consistent with the Nation's interest or sound in terms of long-range water resource planning. Several other

options can be considered. However, none of the broad policy directions listed below address the multitude of details which will have to be addressed in implementing any one of them. In addition, attention is drawn to the fact that it is not necessary to adopt any of the suggested approaches as a national policy. It may, in fact, be considered more desirable to address the problem regionally, by State, by watershed, or by large river basin, with a range of alternatives available to the interested parties. The possible approaches to be considered for quantifying Federal reserved water rights include:

1. The status quo.

   This option would continue the present procedure of quantifying Federal reserved water rights in the courts. This option would enable the courts to continue to clarify the law governing the doctrine of reserved water rights. As this law develops, the water users in the various stream systems can approach either the courts or the Congress for resolution of their particular problems.

2. Legislative resolution

   This approach would involve adoption by the Congress of procedures and criteria by which Federal reserved water rights are to be quantified and a mechanism for management and enforcement. The Government would then apply these criteria to all Federal reservations and enclaves for which reserved water rights are to be claimed.

3. Judicial resolution

   This would recognize that certain disputes may be resolved only in

court and attempt to eliminate a number of the controversial areas that prohibit a relatively rapid judicial determination of the extent of the reserved rights.

A. Modification of the McCarren Amendment to allow adjudication of Federal water rights only in Federal Court

B. Action to permit the States to represent their citizens as parens patriae

C. Creation of a Federal water court

4. Other Federal initiatives to facilitate quantification

A. Congressional authorization to negotiate Federal-State compacts

B. Expedited investigation and construction of water resources projects that will develop Federal reserved water rights.

Regardless of the option or mix of options that may eventually be adopted, certain specific issues regarding the extent of Federal reserved water rights have not been definitively resolved. Accordingly, we invite comment on the following issues: the right to use reserved waters off the reservations for which they were reserved; the relationship of reserved rights to interstate compacts and court decrees; management authority of reserved rights to ground water; reserved rights for in-stream purposes; projects to develop reserved rights; compensation of injured parties resulting from quantification and use of Federal reserved water rights; and, effects of changing technologies on reserved rights.

Desired Public Impact

Attention is again drawn to the fact that these options and issues are not mutually exclusive, nor is this list intended to be complete. It is the purpose of this publication to inform the public of the options being considered and to invite comments and suggestions. Finally, the public should also be aware that the present effort is not limited to an approach to the problems posed by the reserved rights doctrine but, rather, is part of the Administration's efforts to fashion a comprehensive national water resources policy in cooperation with the Congress and the public.

[FR Doc.77-21532 Filed 7-22-77;10:54 am]

Water Resources Council
Water Resources Policy Study
Additional Hearing

As the [illegible] water resource policy study was announced for Washington, D.C. The hearing will be in the [illegible] Auditorium at 18th and C Streets, N.W., from 9 a.m. to 5:30 p.m. August 4th and 5th, 1977. The moderator for the [illegible] announced later.

The President's May 23 environmental message directed the Water Resources Council, the Office of Management and Budget and the Council on Environmental Quality to review existing water resource policy and to recommend reforms to the President within six months. A Policy Committee, chaired by Mr. Guy Martin will carry through the study. The other members of the Committee are Mr. Eliot Cutler, Associate Director of the Office of Management and Budget for Natural Resources, Energy and Science and Mr. James Gustav Speth, Staff Member of the Council on Environmental Quality.

The message directed that the study be conducted in consultation with the public and with the Congress. Eight hearings, in Minneapolis, Denver, Boston, Atlanta, Los Angeles, Seattle, Cincinnati and Dallas, were announced by the Water Resources Council previously.

The hearing will center on water resource policy and particularly upon the "issue and options papers" published in the July 15 and July 25 Federal Register issues. Copies of those papers are available at the Water Resources Council.

Members of the Policy Committee, their representatives and other high level representatives of the Administration will serve as hearing [illegible]. At the hearings, anyone wishing to present a written or oral statement may do so by writing: Chairman, U.S. Water Resources Council, 2120 L Street, N.W., Washington, D.C. 20037; or telephone Ms. Trude [illegible].

If notification is made at least two days prior to the hearing, opportunity to testify will be accorded. At the hearing, those who have not made prior notification will be heard if time permits. Oral statements will be limited to 10 minutes. Each witness may be allocated 5 additional minutes to respond to questions from the hearing panel. Written statements received at the Council by close of business August 12 will also be included in the record.

1. Time:

The hearing will run from 9:00 a.m. to 5:30 p.m. each day.

2. Hearing Procedure:

a. Moderator's Authority - The hearing will be chaired by a moderator responsible for conducting the hearing.

b. Hearing Panel - A hearing panel shall serve to receive testimony, question witnesses, and provide answers to any questions from any witness. The hearing panel shall consist of at least one member of the Policy Committee or their designees.

c. Record of Hearing and Availability - Each hearing shall be electronically recorded. Duplicates of each recording may be obtained at cost plus handling and mailing charges from the U.S. Water Resources Council in Washington, D.C., 2120 L Street, N.W., Washington, D.C. 20037.

d. Oral Statements - Views and comments may be presented at the hearing orally by submitting written statements for the record as set out [illegible] below. Persons intending to present an oral statement should so indicate in writing or by telephone to the moderator or designated representative of the moderator of the proper hearing at least 3 days prior to the commencement of each hearing with an advance copy of the statement, if available.

The moderators shall schedule all persons those who meet such notice requirements. Those persons who fail to meet the notice requirement shall be allowed to make presentations as time permits. In scheduling witnesses, the moderators shall give top priority to elected and other government officials.

Each witness shall be allocated no more than 10 minutes to make their presentation. Additionally, each witness may be allocated 5 minutes to respond to questions from the hearing panel and the moderator.

Scheduled witnesses may ascertain the approximate time of their appearance on the morning from the public information officer of the moderator's agency or agency.

e. Written Statements - Written views and comments shall be introduced into the record if they are submitted to the moderator within 1 week after the termination of the hearing.

Alternatively, written comments will be included in the record if received by the U.S. Water Resources Council no later than [illegible] August 20, 1977.

Muriel T. Beard
Acting Alternate to the Chairman
Water Resources Council

[FR Doc.77-21557 Filed 7-22-77;12:02 pm]

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